

Office Action Summary**Application No.**

10/597,763

Applicant(s)HOOGEVEEN, ROMHILD
MARTIJN**Examiner**

Tiffany A. Fetzner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-11, 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-11 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: <u>February 14, 2009</u> |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED Final ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) previously submitted on August 7, 2006 has already been considered by the examiner and was previously attached to the August 15, 2008 Office action.

Drawings

3. The drawing objections from the **August 15, 2008** office action are **rescinded** in view of the applicant's drawing amendments made to amended **Figure 1**, submitted with the November 12, 2008 amendment in response.

Specification

4. The objections to the disclosure in the last office action of August 15, 2008 are rescinded, in view of the applicant's amendments filed November 12, 2008, which rectified the noted objections while being free of new matter.

Canceled claims

5. **Claims 1, 2, and 12** are canceled as per applicant's November 12, 2008 amendment and response.

Claim Rejections - 35 USC § 112

6. **amended Claims 3-11, and new claim 13** are rejected under 35 U.S.C. 112, second paragraph, as a result of the November 12, 2008 amendment in response as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. **Regarding amended independent claim 6, dependent claims 4, 5, and newly added independent claim 13** these claims are indefinite, because applicant has forgotten to set forth the orientation or directional frame of reference of the "relative to" set forth in claim. The "relative to" between the support bed and the first coil, or the main magnet system, occurs "relative to" how in what direction in this context "relative to" is essentially setting up a vector within the claims,

8. **Regarding amended claims 5-11**, these claims are considered to be indefinite because they each depend from an amended independent claim, which has an indefinite issue within the claim itself, which thereby renders the scope of the claim(s) comparatively unascertainable, since appropriate directions must be known. See MPEP § 2173.05(d).

9. For purposes of examination, the examiner is considering any prior art references with motion related to the parts recited as being pertinent, because applicant has not clarified the directionality specifically connected to applicant's invention.

Response to Arguments

10. Applicant's arguments filed November 11, 2008 have been fully considered but they are **not persuasive**. Applicant argues that the applied prior art does not include a patient carried coil. The examiner notes that each of the applied references. However does include at least one or more embodiments in which a coil is carried by the patient or is attached to and around the patient (**Englund et al., Young**) such that when the patient is moved the local RF coil is also moved with the patient, or follows the upper surface of the body contour of the patient itself as the patient is moved (**Kroeckel**). Therefore the patient and the local RF coil are carried together into the MRI imager device. Additionally, the examiner notes that applicant's arguments are also not persuasive, because each of the independent claims does not claim the feature, that applicant argues as the feature of novelty. Applicant should be review all embodiments of the cited prior arts, and the taught variations thereof.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. **Amended Claims 3-10 are finally** rejected under **35 U.S.C. 102(b)** as being anticipated by **Young** US patent 5,197,474, issued March 30, 1993.

13. With respect to amended **Claim 6, Englund et al.**, teaches and shows “An RF system for a magnetic resonance imaging device, comprising an RF transmitter coil subsystem” [See column 1 line 18 through column 6 line 15 where numerous configurations and arrangements of transmission and reception coils are taught.] “and an RF receiver coil subsystem wherein the RF receiver coil subsystem comprises at least one first coil-like element and at least one second coil-like element,” (i.e. see coil components 3, 4 of fig. 1 or components 3, 11, 12 of figure 4) “wherein the or each first coil element (i.e. coil seat 3) is positioned below, preferably directly below, a support for bed on which the object to be analyzed is placed [See figures 1, 2 and 4 where coil seat 3 is built-in / permanently fixed or attached to the lower magnet assembly bed 2, of the MRI imager assembly, as an internal integral part of the patient support bed that moves into and out of the magnetic resonance imager and when inside the MRI imager is geometrically fixed with respect to the magnetic iso-center of the main magnet system of the MRI imaging apparatus.] and is movably attached to the main magnet system, in a way that the support or bed is movable relative to the or each first coil element” (i.e. such as RF coils 4, 10, 11, 12) “is movably attached to the main magnet system, in a way that the support or bed (i.e. upper bed 1) “is movable relative to the or each first coil-like element” [See figures 1-4 the abstract and the combined teachings of column 1 line 18 through column 6 line 15] “and that the or each first coil-like element is movable relative to the main magnet system” [See again figures 1-4 the abstract and the combined teachings of column 1 line 18 through column 6 line 15.] “and wherein the or each second coil element (i.e. components 11 and/or 12 of the knee coil shown in figure 4) is assigned to an object to be analyzed by the magnetic resonance imaging device [See col. 3 line 37 through col. 4 line 48 where the radiofrequency coil 7 is fixed relative to the magnet bore] “and wherein the or each second coil-like element is assigned to an object to be analyzed by the magnetic resonance imaging device” [See

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knee coil component 11, of figures 3 and 4 as one example which is designed to conform to the anatomy of the patient's knee. Additionally see the abstract and the combined teachings of column 1 line 18 through column 6 line 15.]

14. With respect to **Amended Claim 3, Englund et al.**, teaches and shows "wherein the or each first coil-like element, (i.e. such as RF back coil 10) "is designed as part of a built-in system body coil". [See figures 1-4 the abstract and the combined teachings of column 1 line 18 through column 6 line 15 with respect to RF coil component 10, in combination with RF coil seat 3 which is a component that is built into the lower bed 2 of the lower main magnet assembly when lower bed 2 is located along the magnetic center of the MRI apparatus as indicated by dashed line 9 in figures 1 through 3.] The same reasons for rejection, which apply to **claim 6** also apply to **claim 3** and need not be reiterated

15. With respect to **amended Claim 4, Englund et al.**, teaches and shows "wherein the or each first coil element is attached to the main magnet system of the magnetic resonance imaging device, in a way that the support or bed is movable relative to the or each first coil element.. [See figures 1-4 the abstract and the combined teachings of column 1 line 18 through column 6 line 15 with respect to the various configurations, positions and locations of RF coils 4, 10, 11, 12; RF coil seat 3 lower bed 2 and upper bed 1.] The same reasons for rejection, which apply to **claim 6** also apply to **claim 4** and need not be reiterated

16. With respect to **amended Claim 5, Englund et al.**, teaches that the radiofrequency coils 4, 10, 11, or 12 are secured to the patient support 2, in such a way that when the patient support 2 is moved axially relative to the bore, the radiofrequency coil located at RF coil seat 3, also moves axially with the support. **Englund et al.**, also teaches that patient bed 1 is also capable of separate movement away from RF coil seat location 3. Therefore, **Englund et al.**, teaches the limitation that "the or each first coil element" (i.e. RF coil 4, 10, 11 or 12 for example) is fixedly attached to said main magnet system, during main magnet imaging through RF coil seat 3, in a way that the upper patient support or upper bed 2 is movable relative to the or each fixed first coil element." [See figures 1-4 the abstract and the combined teachings of column 1 line 18

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through column 6 line 15] The same reasons for rejection, which apply to **claims 6, 4** also apply to **claim 5** and need not be reiterated

17. With respect to **amended Claim 7, Englund et al.**, teaches and shows from figures 3, 4 that “the or each second coil element” (i.e. such as upper RF coil component 12) “is positioned above, preferably directly above, the object to be analyzed by the magnetic resonance imaging device.” [See figures 3-4 the abstract and the combined teachings of column 1 line 18 through column 6 line 15 with respect to RF knee coil components 11, 12 where 12 is the upper RF Knee coil component.] The same reasons for rejection, which apply to **claim 6** also apply to **claim 7** and need not be reiterated

18. With respect to **amended Claim 8, Englund et al.**, teaches and shows “wherein the or each second coil element is attached to the object to be analyzed, in a way that the or each second coil element is movable together with the object to be analyzed.” [See figures 1, 3, & 4, in combination with each other; the abstract and the combined teachings of column 1 line 18 through column 6 line 15 with respect to the various positions and combinations of RF coils within the apparatus and how they are attached to the patient to be analyzed within the MRI imager The Examiner notes that the knee coil is specifically attached to **and travels with** the object to be analyzed as per figure 4] The same reasons for rejection, which apply to **claims 6, 7** also apply to **claim 8** and need not be reiterated

19. With respect to **amended Claim 9, Englund et al.**, teaches and shows “wherein the or each second coil element (i.e. coil component 12 of figures 3, 4) “is movable together with a support or bed (i.e. component 2) “on which the object to be analyzed is placed relative to the or each first coil element.” [See figures 1, 3, & 4, in combination with each other; with respect to component 3; the abstract and the combined teachings of column 1 line 18 through column 6 line 15 with respect to the various positions and combinations of RF coils within the apparatus and how they attached to the patient to be analyzed within the MRI imager]. The same reasons for rejection, which apply to **claims 6, 7, 8** also apply to **claim 9** and need not be reiterated

20. With respect to **amended Claim 10, Englund et al.**, teaches and shows “wherein the or each second coil element is designed as a wearable unit” (i.e. see knee coil components 11/12 of figures 3,4; or the wearable **liver/head** coil of column 5 lines 30 to 39), “wherein said wearable unit is attachable to the object to be analyzed, outside the magnetic resonance imaging device and before MRI analysis. [See figures 1, 3, & 4, in combination with each other; the abstract and the combined teachings of column 1 line 18 through column 6 line 15 with respect to the various positions and combinations of RF coils within the apparatus and how they attached to the patient to be analyzed within the MRI imager.] The same reasons for rejection, which apply to **claims 6, 7** also apply to **claim 10** and need not be reiterated

21. **Amended Claims 3-4, 7-9, 11, and new claim 13 are finally** rejected under **35 U.S.C. 102(e)** as being anticipated by **Krockel et al.**, US patent application publication 2002/0138001 A1 published September 26, 2002, filed March 20th 2002.

22. With respect to **Claim 1, Kroeckel** teaches and shows “An RF system for a magnetic resonance imaging device, comprising an RF transmitter coil subsystem and an RF receiver coil subsystem [See paragraph [0023] and paragraph [0026] transmission coil 6 and the local coil reception arrangement 7, 8.] wherein the RF receiver coil subsystem comprises at least one first coil element and at least one second coil element,” (i.e. see coil components 7, 8) “wherein the or each first coil element [See component 8, which in figure 1 is built-in / permanently fixed or attached to the lower magnet half of the MRI imager assembly as an internal part of the patient support base that moves into and out of the magnetic resonance imager and is identified by the double ended A, shown in figure 1] is positioned below, preferably directly below, a support for bed on which the object to be analyzed is placed [See figure 1, [and paragraphs and [0025], [0026] where coil 8 is built-in / permanently fixed or attached to the lower magnet assembly bed, of the MRI imager assembly, as an internal integral part of the patient support bed that moves into and out of the magnetic resonance imager and when inside the MRI imager is geometrically fixed with respect to the magnetic iso-center of the main magnet system of the MRI imaging apparatus.] and is movably attached to the main magnet system, in a way that the support or bed is

movable relative to the or each first coil element” (i.e. such as RF coil 8) “is movably attached to the main magnet system, in a way that the support or bed is movable relative to the or each first coil element” [See figures 1-8 the abstract and the combined teachings of paragraph [0002] through [0036]] “and that the or each first coil element is movable relative to the main magnet system” [See again figures 1-8 the abstract and the combined teachings of paragraph [0002] through [0036]] “and wherein the or each second coil element (i.e. RF coil/coil array element 7,) is assigned to an object to be analyzed by the magnetic resonance imaging device [See the combined teachings of paragraph [0002] through [0036]] “and wherein the or each second coil-like element is assigned to an object to be analyzed by the magnetic resonance imaging device” because **Kroeckel** teaches that local receive coil component 7 is assigned to directly come in contact with the patient to be imaged. See also specifically paragraphs [0008], [0017], [0021], [0023], [0025], and [0026]]

23. “[] and **Kroeckel also** teaches that “wherein the or each second coil-like element is assigned to an object to be analyzed by the magnetic resonance imaging devices” because **Kroeckel** teaches that local receive coil component 7 is assigned to directly come in contact with the patient to be imaged. See also paragraphs [0008], [0017], [0021], [0023], [0025], and [0026]]

24. With respect to **Amended Claim 3**, **Kroeckel** teaches and shows “wherein the or each first coil element is designed as part of a built-in system body coil”. [See figure 1 and paragraphs and [0025], [0026], along with **figures 1-8** which are part of a system that is capable of being permanently prescribed, (i.e. built-into the MRI imager apparatus system).] The same reasons for rejection, which apply to **claim 6** also apply to **claim 3** and need not be reiterated

25. With respect to **Amended Claim 4**, **Kroeckel** teaches and shows “wherein the or each first coil- element is attached to the main magnet system of the magnetic resonance imaging device, in a way that the support or bed is movable relative to the or each first coil element. [See figure 1, and the double ended arrow “A”, along with the teachings of paragraphs [0007] through [0035], which explains the ability to have more than one coil represented by component 8 and the ability to consistently move

component 8 when the patient support is moved in a fixed relationship whereby motion of one component the patient support necessarily moves coil component 8 maintaining a constant relative motion and geometrical position to one another. The same reasons for rejection, which apply to **claim 6** also apply to **claim 4** and need not be reiterated.

26. With respect to **amended Claim 5**, **Kroeckel** teaches that the radiofrequency coils 8 are secured to the patient support, in such a way that when the patient support is moved axially relative to the bore, the radiofrequency coil 8, which may be made up of more than one coil, also moves axially with the support. **Kroeckel** also teaches that “the or each first coil element” (i.e. RF coil 8 for example) is fixedly attached to said main magnet system, in a way that the upper patient support or bed is movable relative to the or each fixed first coil element.” [See figures 1-8 the abstract and the combined teachings of paragraphs [0007] through [0035], The same reasons for rejection, which apply to **claims 6, 4** also apply to **claim 5** and need not be reiterated

27. With respect to **amended Claim 7**, **Kroeckel** teaches and shows from figures 1 through 8 that “the or each second coil element” (i.e. coil component 7) “is positioned above, preferably directly above, the object to be analyzed by the magnetic resonance imaging device.” [See figures 1 and 2; paragraphs [0021] through [0036]] The same reasons for rejection, which apply to **claim 6** also apply to **claim 7** and need not be reiterated

28. With respect to **amended Claim 8**, **Kroeckel** teaches and shows “wherein the or each second coil element is attached to the object to be analyzed, in a way that the or each second coil element is movable together with the object to be analyzed.” [See abstract, figures 1 and 2; paragraphs [0021] through [0036]]. The same reasons for rejection, which apply to **claims 6, 7** also apply to **claim 8** and need not be reiterated

29. With respect to **amended Claim 9**, **Kroeckel** teaches and shows “wherein the or each second coil element (i.e. coil component 7 of figure 1 with paragraph [0026]) is movable together with a support or bed on which the object to be analyzed is placed relative to the or each first coil element.” [See abstract, figures 1 and 2; paragraphs [0021] through [0036] and the double ended arrow which shows that the patient bed moves axially, horizontally, into and out of the bore of the MRI device]. The same

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reasons for rejection, which apply to **claims 6, 7, 8** also apply to **claim 9** and need not be reiterated

30. With respect to **amended Claim 11**, **Kroeckel** teaches and shows “A magnetic resonance imaging device,” [See abstract, paragraph [0001], figure 1, figure 2, and paragraphs [0021] through paragraph [0026]] “comprising a main magnet system” (i.e. component 4), a support or bed which supports an object that is to be analyzed, [See the patient support of figure 1], a gradient coil system” (i.e. component 5), “an RF system” (i.e. components 6-8) “and a signal processing system” (i.e. control computer component 10), “said RF system comprising an RF transmitter coil subsystem, and an RF receiver coil subsystem” (i.e. control computer component 10), “wherein the RF receiver coil subsystem comprises at least one first coil element and at least one second coil element, wherein the or each first coil element is longitudinally movably attached to the main magnet system, in a way that the support or bed will relative to the or each first coil element and that the or each first coil element is longitudinally movable relative to the bed or support and the main magnet system, [see figures 1 through 8, paragraphs [0007] through [0036]] “and wherein the or each second coil element is attached to an object to be analyzed by the magnetic resonance imaging device and moves with the object.” [See the rejection reasons given in the **rejection of claim 6**, which need not be reiterated]. The same reasons for rejection, which apply to **claim 6** also apply to **claim 11** and need not be reiterated

31. With respect to **New Claim 13**, **Kroeckel** teaches and shows “An RF system for a magnetic resonance imaging device” [see paragraph [0001], [0007] through [0036]] comprising: a main magnet system” (4) “configured to define an imaging bore; a support” (2) “configured to support and move a subject longitudinally into and along the bore; a gradient coil system” (5) “configured to create magnetic field gradients in the imaging bore; an RF transmitter coil subsystem” (7, 8) “configured to transmit RF pulses into the imaging bore; an RF receiver coil subsystem including: a first RF coil structure is positioned in the bore below the support and is longitudinally movably mounted to the main magnet system” [figure 1], “the support being movable relative to the first RF coil structure and the first RF coil structure being configured to move Longitudinally relative

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to the support and to the main magnet system;" [See paragraphs [0025] through [0027] and paragraphs [0034] through [0035]] and, "a second RF coil structure" (7) "configured to be attached to and above the subject to be analyzed such that the second RF coil structure moves together with the subject relative to the first RF coil structure." [See the rejection reasons given in the **rejection of claim 6**, which need not be reiterated]. The same reasons for rejection, which apply to **claim 6** also apply to **claim 13** and need not be reiterated

32. **Amended Claims 3-9, 11, and new claim 13 are finally** rejected under **35 U.S.C. 102(e)** as being anticipated by **Young** US patent 6,529,004 B1 issued March 4, 2003, filed June 5, 2000.

33. With respect to amended **Claim 6**, **Young** teaches and shows "An RF system (i.e. component 7) "for a magnetic resonance imaging device, comprising an RF transmitter coil subsystem" (see upper transmitter component 7 of figure 4) "and an RF receiver coil subsystem" [See lower our coil assembly 7 of figures 2, 3, 4 and 9.] "wherein the RF receiver coil subsystem comprises at least one first coil-like element and at least one second coil-like element," (i.e. see coil components A, B, C, D, and E of Figure 9, see also coil F of figure 4) "wherein the or each first coil element is positioned below, preferably directly below, a support for bed on which the object to be analyzed is placed" **Young** teaches that the coil arrays which are identified as 7 are used for both transmit and receive, although in principle a separate receive coil example of surface coil could be employed. [See column 4 lines 57 through 60]. Additionally **Young** teaches that "off axis regions of the patient may be readily imaged in continuous scan since the coil array can be displaced sideways and since the curvature of the end of the array conforms to that of the bore the coil can accommodate patients of different sizes because of the adjustable central section and, since the coil moves along the length of the bore with the patient support, the coil can be brought closer to the patient than would be the case if there was relative movement between the coil and the patient as in the known arrangement of figure 1. Padding could be included on top of the coil array for comfort and cosmetic reasons." [See column 4 line 63 through column 5 line 6]. Therefore with padding in place covering coil arrangement 7 on which the patient is

laid, it is clear that **Young** teaches the limitation “wherein the or each first coil-like element is positioned below, preferably directly below, a support or bed (i.e. such as patient padding) “on which the object to be analyzed is placed.” [See column 4 line 63 through column 5 line 6].and is movably attached to the main magnet system, in a way that the support or bed is movable relative to the or each first coil element” [See column 3 line 13 through column 5 line 20, especially column 5 lines 7 through 20 where the variation of having the patient support move relative to the coil system is taught.] “and that the or each first coil element is movable relative to the main magnet system, [See column 3 line 13 through column 5 line 20, especially column 3 lines 37 through 50 where the variation of having the coil elements move axially and laterally, in conjunction with the patient support relative to the main magnet system is directly taught as an aspect of the Young invention.] “and wherein the or each second coil element is assigned to an object to be analyzed by the magnetic resonance imaging device [See col. 3 line 37 through col. 4 line 48 where the radiofrequency coil 7 is fixed relative to the magnet bore] “and wherein the or each second coil-like element is assigned to an object to be analyzed by the magnetic resonance imaging device” [See the coil components which conform about the patient and are built-in to the lower half of the MRI imager as a part of the patient support base that moves axially with the patient support when the patient enters the bore of the magnet. [See the abstract, column 2 lines 22 through 49, column 3 line 12 through column 5 line 20].

34. With respect to **amended Claim 3**, **Young** teaches that “wherein the or each first coil-like element is designed as part of a built-in system body coil”. [See figures 1 through 9. See column 3 line 37 through column 5 line 20.] The same reasons for rejection, which apply to **claims 6** also apply to **claim 3** and need not be reiterated

35. With respect to **amended Claim 4**, **Young** teaches and shows because coil arrangement seven is attached to the patient support but designed in order to mirror the shape of the magnet bore the limitation of “wherein the or each first coil element is attached to the main magnet system of the magnetic resonance imaging device, in a way that the support or bed is movable relative to the or each first coil element. [See figures 2, 3, and 4 in combination with one another; the abstract, column 2 lines 23

through 50, and column 3 line 37 through column 5 line 20.] The same reasons for rejection, which apply to **claim 6** also apply to **claim 4** and need not be reiterated

36. With respect to **amended Claim 5**, **Young** teaches that the radiofrequency coil array 7 is secured to the patient support 1, in such a way that when the patient support is moved axially relative to the bore, the radiofrequency coil also moves axially with the support. The radiofrequency coil 7 is also movable laterally, as shown in figure 3. [See col. 3 lines 37-45] Additionally, **Young** teaches that it is also possible to have the patient support 1 move laterally relative to the coil array 7 (i.e. to have the coil array 7 be fixed to the magnet bore as is known from figure 1, while the patient support 1 itself is moved laterally) in which case the relative lateral movement would be between the patient support 1 and the runners 2 of figures 1 through 4. [See column 5 lines 7 through 20.] Therefore, **Young** teaches the limitation that “the or each first coil element, is fixedly attached to said main magnet system, in a way that the support or bed is movable relative to the or each fixed first coil element. The same reasons for rejection, which apply to **claims 6, 4** also apply to **claim 5** and need not be reiterated

37. With respect to **Claim 7**, **Young** teaches and shows from figure 4 that “the or each second coil element is positioned above, preferably directly above, the object to be analyzed by the magnetic resonance imaging device.” [See column for line 51 through column 5 line 20.] The same reasons for rejection, which apply to **claim 6** also apply to **claim 7** and need not be reiterated.

38. Fix add claim 8 and 9.

39. With respect to **amended Claim 8**, **Young suggests** and shows from figure 4 and column 4 line 48 through column 5 line 20; “wherein the or each second coil element is attached to/cooperates directly with the object to be analyzed, in a way that the or each second coil element, F “is movable” along the ceiling “together with the object to be analyzed.” [See abstract, figures 1 and 2; paragraphs [0021] through [0036]]. The same reasons for rejection, which apply to **claims 6, 7** also apply to **claim 8** and need not be reiterated

40. With respect to **amended Claim 9**, **Young suggests** and shows from figure 4 and column 4 line 48 through column 5 line 20; “wherein the or each second coil

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element” (i.e. coil component F) “is movable” along the ceiling “together with a support or bed on which the object to be analyzed is placed relative to the or each first coil element.” [See coil elements A-E, figures 1 through 4 and 9; abstract, column 2 line 23 through column 5 line 20]. The same reasons for rejection, which apply to **claims 6, 7, 8** also apply to **claim 9** and need not be reiterated.

41. With respect to **amended Claim 11**, **Young** teaches and shows “A magnetic resonance imaging device, [see abstract] “comprising a main magnet system, [See column 1 lines 12 through 30], a support or bed which supports an object that is to be analyzed, [See patient support 1], a gradient coil system, an RF system and a signal processing system” [See column 1 lines 12 through 30], “said RF system comprising an RF transmitter coil subsystem, and an RF receiver coil subsystem, wherein the RF receiver coil subsystem comprises at least one first coil element” (7 or A) “and at least one second coil element, (i.e. B, C, D, E, etc.,) “wherein the or each first coil element is longitudinally movably attached to the main magnet system, in a way that the support or bed will relative to the or each first coil element and that the or each first coil element is longitudinally movable relative to the bed or support and the main magnet system, [see column 3 line 37 through column 5 line 20] “and wherein the or each second coil element is attached to an object to be analyzed by the magnetic resonance imaging device and moves with the object.” [See the rejection reasons given in the **rejection of claim 6**, which need not be reiterated]. The same reasons for rejection, which apply to **claim 6** also apply to **claim 11** and need not be reiterated.

42. With respect to **New Claim 13**, **Young** teaches and shows “An RF system for a magnetic resonance imaging device” [See abstract] “comprising: a main magnet system configured to define an imaging bore; a support configured to support and move a subject longitudinally into and along the bore; a gradient coil system configured to create magnetic field gradients in the imaging bore; an RF transmitter coil subsystem configured to transmit RF pulses into the imaging bore; an RF receiver coil subsystem” [See column 2 line 23 through column 5 line 20] “including: a first RF coil structure is positioned in the bore below the support and is longitudinally movably mounted to the main magnet system, the support being movable relative to the first RF coil structure

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and the first RF coil structure being configured to move Longitudinally relative to the support and to the main magnet system; and, a second RF coil structure configured to be attached to and above the subject to be analyzed such that the second RF coil structure moves together with the subject relative to the first RF coil structure.” [See column 2 line 23 through column 5 line 20.] The same reasons for rejection, which apply to **claim 6 above** also apply to **claim 13** and need not be reiterated.

43. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

44. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Prior Art of Record

45. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- A) Wang et al.**, United States patent 5,928,140 issued July 27, 1999.
- B) Yasuhara et al.**, United States patent 7,218,106 B2 issued May 15, 2007.
- C) . Zhu et al.**, United States patent 7,009,396 B2 issued March 7, 2006 filed September 12, 2002.

Conclusion

46. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tiffany Fetzner whose telephone number is: (571) 272-2241. The examiner can normally be reached on Monday, Wednesday, and Friday-Thursday from 7:00am to 2:10 pm., and on Tuesday and Thursday from 7:00am to 5:30pm.

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47. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Diego Gutierrez**, can be reached at (571) 272-2245. The **only official fax phone number** for the organization where this application or proceeding is assigned is **(571) 273-8300**.

48. Information regarding the status of an application may be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PMR or Public PMR. Status information for unpublished applications is available through Private PMR only. For more information about the PMR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PMR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/TAF/
February 19, 2009

/Brij Shrivastav/
Primary Patent Examiner
Technology Center 2800